Product Data Sheet

Product Name: SKF 83959
Cat. No.: GC69910

Chemical Properties

Cas. No.	80751-85-5		
Formula	$C_{18}H_{20}ClNO_2$	M.Wt	317.81
Solubility	DMSO : ≥ 100 mg/mL (314.65 mM)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	SKF 83959		

Background

SKF83959 is a potent and selective dopamine **D_1-like** receptor partial agonist. SKF83959 **K_i** values for rat **D_1**, **D_5**, D_2 and D_3 receptors are 1.18, 7.56, 920 and 399 nM, respectively. SKF83959 is a potent allosteric modulator of **sigma (σ)-1** receptor. SKF83959 belongs to benzazepine family and has improvements on cognitive dysfunction. SKF83959 can be used for the research of Alzheimer's disease and depression[1][2][3][4].

SKF83959 (10~250 μM) stimulates PIP2 drolysis in membranes. SKF83959 (0.1~10 μM; PC12 cell) changes the EC_{50} value of SKF81297 from 0.5 nM in control tissue to 31.6 nM, 251.2 nM and 631.0 nM[2].

SKF83959 (0.5 and 1 mg/kg; i.p.; 1 hour) reverses the scopolamine-induced cognitive impairments in the passive avoidance task and Y-Maze test[1].
SKF83959 (1 mg/kg; i.p.; 30 minutes) induced memory enhancing effects are prevented by brain-derived neurotrophic factor system blockade[1].
SKF83959 has anti-amnesic activities and restores the scopolamine-decreased BDNF signaling pathway in the hippocampus in mice[1].

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Animal Model:	Male ICR male mice (8 weeks)[1]
Dosage:	0.5 and 1 mg/kg
Administration:	I.p.; 1 hour
Result:	Reversed the scopolamine-induced cognitive impairments in the passive avoidance task and Y-Maze test.
Animal Model:	Male ICR male mice (8 weeks)[1]
Dosage:	1 mg/kg
Administration:	I.p.; 30 minutes
Result:	The memory enhancing effects were prevented by BDNF system blockade.

[1]. Sheng G, et al. SKF83959 Has Protective Effects in the Scopolamine Model of Dementia. Biol Pharm Bull. 2018;41(3):427-434.
[2]. Jin LQ, et al. SKF83959 selectively regulates phosphatidylinositol-linked D1 dopamine receptors in rat brain. J Neurochem. 2003;85(2):378-386.
[3]. Neumeyer JL, et al. Receptor affinities of dopamine D1 receptor-selective novel phenylbenzazepines. Eur J Pharmacol. 2003;474(2-3):137-140.
[4]. Guo L, et al. SKF83959 is a potent allosteric modulator of sigma-1 receptor. Mol Pharmacol. 2013;83(3):577-586.

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